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## The Director of the United States Patent and Trademark Office

*Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.*

Therefore, this

### United States Patent

*Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.*

*If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.*

*If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extensions.*

*Nicholas P. Ebolici*

Acting Director of the United States Patent and Trademark Office

*Quinn M. Person*

J11046 U.S. PTO  
09/998991  
11/29/01



US006190372B1

**United States Patent**  
**Racz**(10) Patent No.: **US 6,190,372 B1**(45) Date of Patent: **Feb. 20, 2001****CATHETER CONNECTOR**Inventor: **N. Sandor Racz**, Greenfield Center, NY  
(US)Assignee: **Epimed International, Inc.**,  
Gloversville, NY (US)Notice: Under 35 U.S.C. 154(b), the term of this  
patent shall be extended for 0 days.

4,950,255	8/1990	Brown et al.	
5,053,015	10/1991	Gross	
5,188,607	2/1993	Wu	
5,234,413	* 8/1993	Wonder et al.	604/248
5,336,206	* 8/1994	Shichman	604/283
5,350,364	* 9/1994	Stephens et al.	604/167
5,366,262	11/1994	Couvreux	
5,390,898	* 2/1995	Smedley et al.	604/905
5,505,714	* 4/1996	Dassa et al.	604/283
5,531,723	7/1996	Solazzo	
5,603,702	* 2/1997	Smith et al.	604/256

Appl. No.: **09/134,801**Filed: **Aug. 14, 1998**Int. Cl.<sup>7</sup> ..... **A61M 25/16; F16B 39/24;**  
..... **F16B 21/00**U.S. Cl. .... **604/534; 604/905; 411/512;**  
..... **411/531; 411/161; 128/912**Field of Search ..... **604/30, 32-34,**  
..... **604/186, 246, 248-250, 256, 283, 905,**  
..... **533-537; 128/912; D24/129; 251/4, 7,**  
..... **8; 411/531, 541, 544, 907, 313, 314, 533,**  
..... **399, 512, 160-162; 285/2, 89, 104, 105,**  
..... **109, 123.12, 123, 13, 123.14, 374, 386,**  
..... **399, 405-416****References Cited****U.S. PATENT DOCUMENTS**

39,549	* 1/1944	Kubaugh	411/541
50,944	* 8/1960	Cooney	411/531
49,799	* 6/1969	Bien	604/531
61,792	* 2/1971	Cycowicz	604/531
20,215	* 11/1975	Knauf	251/4
23,065	4/1982	Kling	
58,334	2/1986	Lynn	
15,692	10/1986	Giacalone et al.	
76,530	6/1987	Nordgren et al.	
57,662	* 7/1988	Gasser	411/542
59,017	9/1988	Fath et al.	
59,845	* 1/1989	Hrysko	411/542

**FOREIGN PATENT DOCUMENTS**

36 24 745 A1	2/1988	(DE)
0 666 446 A2	9/1995	(EP)
0 930 083 A2	7/1999	(EP)
2172071	9/1986	(GB)
2252380	8/1992	(GB)

\* cited by examiner

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(57)

**ABSTRACT**

Compressible lock washers for use in catheter connectors. One such lock washer (60) includes a support ring (62) and tube engagement flanges (64) extending centrally therefrom, oblique to the ring and each extending from the same side thereof. The tube engagement flanges (64) define a tube receptacle (72) through which a catheter tube (58) may be inserted. Upon compression of the lock washer (60), the tube engagement flanges (64) are forced toward the ring (62), decreasing the diameter of the tube receptacle (72). Thus, during compression of the lock washer (60), the tube engagement flanges (64) engage the catheter tube (58) which runs through the tube receptacle (72), securing the catheter tube within the catheter connector (20) with which the lock washer is associated.

**16 Claims, 4 Drawing Sheets**